

In the Claims:

1. (Currently Amended) An acetabular reamer, which comprises:
~~for cutting a required cut shape, comprising~~

- a) a cutting shell having a curvature comprising at least a portion of a hemisphere; ~~a series of~~
- b) a plurality of cutting teeth thereon, wherein each
~~substantially all the teeth cutting tooth comprises two~~
~~buttress portions extending from the cutting shell and~~
~~meeting an intermediate are doubly curved in that the~~
~~cutting edge having a hemispherical cutting edge~~
~~curvature for a significant portion of its length edges~~
~~of the teeth are made up of at least two distinct~~
~~curves, namely, a curve associated with a matched are~~
~~cutting edge of substantial length and a curve~~
~~associated with adjacent secondary cutting edges, the~~
~~matched are cutting edge forming a cutting plateau and~~
~~having a cutting profile which substantially matches a~~
~~profile of the overall shape to be cut, , thereby~~
~~reducing a number of teeth required to cut the shape,~~
~~wherein said secondary cutting edges are supported by~~
~~adjacent rise portions which curve back toward the~~
~~cutting shell.~~

2. (Currently Amended) The reamer of claim 1 wherein a generally circular hole precedes each of the cutting edges as the reamer is rotated for cutting.

3. (Currently Amended) The reamer of claim 1[[,]] wherein the reamer ~~includes a series of~~ cutting teeth are arranged uniformly and spaced apart on the cutting shell.

4. (Currently Amended) The reamer of claim 3[[,]] wherein the ~~series of~~ cutting teeth are arranged in a spiral arrangement on the cutting shell.

5. (Currently Amended) The reamer of claim 1[[,]] wherein the cutting shell is a portion of a sphere ~~in which the length of the cutting edges are selected so as to completely cut the shape, thereby enabling the use of fewer teeth than permissible with a cutting shell that has a more complete hemispherical shape.~~

6. (Currently Amended) The reamer of claim 5[[,]] wherein the cutting shell is a hemisphere or portion thereof.

7. (Currently Amended) The reamer of claim 2[[,]] wherein the reamer includes a series of cutting teeth arranged uniformly and spaced apart on the cutting shell.

8. (Currently Amended) The reamer of claim 2[[,]] wherein the cutting teeth are arranged in a spiral configuration ~~arrangement~~ on the cutting shell.

9. to 12. (Cancelled)

13. (Currently Amended) An acetabular reamer, which comprises for ~~cutting a shaped cavity into a bone, the cavity to be cut having a smooth contour cavity surface, the reamer comprising:~~

- a) [[-]] a cutting shell having a curvature; ~~an outside cutting surface from which cutting surface project~~
- b) a plurality of cutting teeth extending upwardly from the cutting shell, each cutting tooth comprising two buttress portions extending from the cutting shell and meeting an intermediate cutting edge spaced furthest

from the shell, the intermediate cutting edge having a cutting curvature that substantially matches the curvature of the shell for a significant portion of its length;

~~the cutting teeth being doubly curved cutting teeth and having a matched cutting edge of substantial length and a curve associated with adjacent secondary cutting edges, the matched are cutting edge forming a cutting plateau and having a cutting profile which substantially matches a profile of the overall shape to be cut, and~~
c) [[-]] wherein the matched cutting edges of the plurality of cutting teeth positioned on extend upwardly from the reamer cutting shell are surface in an overlapping arrangement[[,]] so that rotation of the reamer cutting shell against the bone cuts the a shaped cavity into the bone having the a relatively smooth contour matching the curvature of the cutting shell cavity surface, the cut smooth contour having a cavity surface length greater than the length of a single matched cutting edge.

14. (Cancelled)

15. (New) An acetabular reamer, which comprises:

- a) a cutting shell having a curvature defined by a cutting shell radius; and
- b) a plurality of cutting teeth thereon, wherein each cutting tooth comprises two buttress portions extending from the cutting shell and meeting an intermediate cutting edge spaced furthest from the cutting shell, the cutting edge having a cutting edge radius that substantially matches a hemisphere for a significant portion of its length.

16. (New) An acetabular reamer for cutting a hemispherical shape, comprising:

- a) a cutting shell defining a spherical center and a carrying a plurality of raised teeth positioned thereon with adjacent openings; and
- b) at least one tooth having an arc cutting edge with a constant radius from the spherical center and two secondary edges supported by gussets which curve toward the shell.